ABSTRACT OF THE DISCLOSURE

All multiple myeloma cell lines examined showed constitutively active IκB kinase (IKK), IκBα phosphorylation and constitutively active NF-κB. Curcumin, a chemopreventive agent, suppressed constitutive IκBα phosphorylation through inhibition of IKK activity and downregulated NF-κB. Curcumin also downregulated expression of NF-κB-regulated gene products such as IκBα, Bcl-2, Bcl-x_L, cyclin D1 and interleukin-6. Consequently, curcumin suppressed multiple myeloma cell proliferation and arrested cells at the G1/S phase of the cell cycle. Curcumin also induced apoptosis and chemosensitivity to vincristine. Overall, results presented herein provide a molecular basis for the treatment of multiple myeloma patients with this pharmacologically safe agent.